

I CLAIM:

1. An apparatus for managing a signal over a network, comprising:
a Cyclical Redundancy Check (CRC) circuit configured to receive at least a portion of the signal and determine a CRC index based, in part, on the portion of the signal;
a scaling circuit, coupled to the CRC circuit, that is configured to determine at least one bit from the CRC index; and
a reinsertion circuit, coupled to the scaling circuit, that is configured to determine a modified signal by combining the at least one bit selected from the CRC index with the signal, wherein the at least one bit selected from the CRC index enables routing of the modified signal over the network.
2. The apparatus of Claim 1, wherein the portion of the signal further comprises an address header.
3. The apparatus of Claim 1, wherein the at least one bit further comprises at least one bit determined by AND'ing the CRC index with a predetermined bit mask.
4. The apparatus of Claim 1, wherein the at least one bit further comprises at least one of a non-consecutive number of bits, at least two bits, a consecutive number of bits, and all of the bits.
5. The apparatus of Claim 1, wherein the portion of the signal further comprises at least one of a source address, a destination address, a source port, a destination port, and a protocol.
6. The apparatus of Claim 1, wherein the CRC circuit further comprises a circuit that is arranged to perform actions, including at least one of a 32-bit CRC polynomial computation and a 128-bit CRC polynomial computation.

7. The apparatus of Claim 1, wherein the CRC circuit further comprises at least one of a shift register, a memory, and an XOR-FlipFlop chain.

8. The apparatus of Claim 1, wherein the scaling circuit further comprises:
a hash length store configured to hold a predetermined bit mask; and
an AND'ing circuit, coupled to the hash length store, that is arranged to select the at least one bit from the CRC index by combining the CRC index with the predetermined bit mask.

9. The apparatus of Claim 8, wherein the hash length store further comprises at least one of a register and a memory.

10. The apparatus of Claim 1, wherein the reinsertion circuit further comprising:

- a buffer configured to hold the signal; and
- a combination device, coupled to the buffer, that is configured to determine the modified signal, in part, by combining the at least one bit selected from the CRC index with the signal.

11. The apparatus of claim 10, wherein the buffer further comprises a First-In-First-Out (FIFO) buffer.

12. The apparatus of Claim 10, wherein the combination device further comprises at least one of a multiplexer, a comparator, a memory, and an encoder.

13. A device for managing traffic over a network, comprising:
a transceiver that is arranged to perform actions, including:
receiving a data packet in a flow of data packets;
determining an address header associated with the data packet; and
forwarding the address header; and

an indexing device, coupled to the transceiver, that is arranged to perform actions, including:

- receiving the address header;
- determining a CRC index based, in part, on the address header;
- determining a subset of bits from the CRC index; and
- determining a modified data packet by combining the determined subset of bits from the CRC index with the data packet, wherein the subset of bits from the CRC index enables routing of the data packet over the network.

14. The device of Claim 13, further comprising a reinsertion circuit that is coupled to the indexing device, and arranged to perform actions including:
reinserting the data packet into a data stream.

15. The device of Claim 13, wherein the address header further comprises at least one of a source address, a destination address, a source port, a destination port, and a protocol.

16. The device of Claim 13, wherein the device is operable in at least one of a load-balancer, a router, a firewall, a proxy, a bridge, and a network translation device.

17. The device of Claim 13, wherein the subset of bits from the CRC index further comprises at least one of a non-consecutive number of bits, at least two bits, a consecutive number of bits, and all of the bits.

18. A method for routing traffic over a network, comprising:
receiving a data packet in a flow of data packets;
determining an address header associated with the data packet;
determining a CRC index based, in part, on the address header;
selecting at least one bit from the CRC index; and

data packet, wherein the at least one selected bit from the CRC index enables routing of the data packet over the network.

25. A system for managing traffic over a network, comprising:
- a first network device, configured to perform actions, comprising:
 - receiving a data packet in a flow of data packets;
 - determining an address header associated with the data packet;
 - determining a CRC index based, in part, on the address header;
 - selecting at least one bit from of the CRC index; and
 - determining a modified data packet by combining the at least one selected bit from the CRC index with the data packet; and
 - a second network device, in communication with the first network device, configured to perform actions, comprising:
 - receiving the modified data packet; and
 - routing the modified data packet based, in part, on the at least one selected bit from the CRC index.